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STRATHFIELDSAY.

[The Mansion of Strathfieldsay, the Seat of the Duke of Wellington, from the River Loddon.]

NEVER were public honours better deserved or more willingly rendered than those by which England attempted to repay the illustrious services of the Duke of Wellington. From his first entrance in the army to the crowning glory of his military career, his life had been a succession of gallant achievements which had gradually procured for him all the honours of rank and title which it was in the power of his king or his countrymen to bestow. He had received the repeated thanks of parliament for his services to his country and to suffering Europe; his countrymen had also shown their sense of his high deserts by granting him a sum of money for the purchase of an estate—a grant subsequently increased; and from the king he had received, in succession, all the titles of the British peerage, and all the rewards established for distinguished military talents: yet had he merited them all; and from his knighthood to his dukedom, from his ensign's colours to his staff of field-marshal, no honour was conferred on him which he did not grace, which he had not *earned*.

That will ever be considered one of the proudest days in the annals of the Wellesley family which witnessed the first appearance of its most illustrious member in the House of Lords, when he attended to receive the thanks of his peers for his gallant services, and to take his seat as Duke of Wellington. It was the 28th of June, 1814. He had but just arrived from the Peninsula, the seat of so many of his victories; and on this occasion his welcome to the House of Lords was as a welcome to his country. The peers assembled in unusual numbers, and

the space before the throne was occupied by members of the House of Commons; below the bar, on the stairs, and in every passage and avenue, no spot was vacant: every place was thronged with people anxious to hear, to see, or even to know themselves to be near, the almost idolised star of that assembly. The Duke entered, attended by the Dukes of Norfolk, Richmond, and Beaufort, and preceded by Sir Isaac Heard, Lion King-at-Arms. After the ceremony of introduction, all his patents of nobility were read; and the lord-chancellor then delivered to his grace the unanimous thanks of the house, taking occasion, in the course of his speech, to remark (a circumstance unprecedented in our history) that, on the first day on which the Duke had appeared among the peers of England, he had produced titles in regular gradation to the whole of the honours of the peerage in the power of the crown to bestow.

Three days after this event, the Duke (having been congratulated on his return to his country by a committee of the House of Commons, who had been deputed to wait on him) attended in the body of the House to express his thanks for the honours they had conferred upon him.

It is not in this place, or on a slight occasion like the present, that we can be expected to enter into any details of such circumstances, however interesting they might prove; but it is impossible to avoid quoting a passage from the eloquent address of the Speaker on this occasion, which will speak the character of the Duke, and the admiration with which he was received by his countrymen:—"It is not," said the Speaker, in the course of his address, "the grandeur of military success which has alone fixed our admiration or commanded our applause: it has been that generous and lofty spirit which inspired your troops with unbounded confidence, and taught them to know that the day of battle was always a day of victory; that moral courage and enduring fortitude which, in perilous times, when gloom and doubt had beset ordinary minds, stood nevertheless unshaken; and that ascendency of character which, uniting the energies of jealous and rival nations, enabled you to wield at will the fates and fortunes of mighty empires."

But the achievements for which all these honours were awarded,—and for which all that the king and parliament could do was considered inadequate to express the sense the country entertained of their importance,—were but the forerunners of an event more splendid and glorious than any which had transpired throughout this already dazzling career. When the joy with which the news of the battle of Waterloo was received admitted sufficient leisure, the legislature was called upon "to take such measures as should afford a further proof of the opinion entertained by parliament of the Duke of Wellington's transcendent services, and of the gratitude and munificence of the British nation."* But there were no honours which the Duke had not already received; he was at the head of the army, and among the first in rank of any subject unallied to the crown; parliament could therefore only repeat their thanks, and increase their former munificent grant for the purchase of an estate, by the addition of a sum by which a palace might be erected on a scale of magnificence worthy the conqueror for whom it was designed.

These several grants had now amounted to a considerable sum, and the trustees appointed to carry the intention of parliament into effect by the application of the funds to the purchase of an estate and the erection of a mansion suitable to the dignity of the Duke's rank, at length purchased the manor of Strathfieldsay.

The first act, granting a sum of money to the Duke of Wellington for the purchase of an estate, was passed December 22, 1812 (53 George III., c. 4). For this purpose, and in gratitude for the services of the Duke, "particularly at the battle of Salamanca," it vests in the hands of certain trustees the sum of 100,000*l.* to be applied as above stated. This act was amended by another (53 George III., c. 133), empowering the trustees to lay out a portion of the money in the erection of buildings. The next grant is made by the 54th George III., c. 161, which gives to the same fund the additional sum of 400,000*l.* (or an annuity of 13,000*l.* to the duke and his heirs). The sum granted after the battle of Waterloo was 200,000*l.*, by the act authorising which (55 George III., c. 186) it is enacted that the estate purchased with the money should be deemed to be holden of the crown, on condition of sending to the king at Windsor a tri-coloured flag on the 18th of June, the anniversary of the battle.

The manor of Strathfieldsay is situated in the north of Hampshire, about three miles and a half east of Silchester. The park is not of very great extent, the average breadth being about a mile, and the length about a mile and a half; but it is rendered pleasant, especially on the eastern side, by a diversity of hill and dale and some fine trees; and it is also enlivened by the waters of the river Loddon, which, winding through the grounds, are expanded into various sheets of ornamental water, near which the mansion is situated. The term Strath, or Strat, as it is usually pronounced, seems to have been an old term signifying a "stretch" of level ground with elevations running along the sides. In this sense it is frequently used in Scotland, and some instances of its employment with this meaning may be found in Wales. The addition of "Say" appears to have been derived from a family of that name, who originally possessed the domain, and from which it passed in marriage to that of the Dabridgecourts, who held it from the time of Richard II. to the year 1636. About that time it was purchased by Sir W. Pitt, an ancestor of the Earl of Chatham, to whom it descended, and who, as well as his equally celebrated son, often resided here.

Since Strathfieldsay has been in a state fit for the residence of the Duke of Wellington, his country has happily had no need for his services as a soldier; but he has been called in moments of difficulty to the councils of his sovereign, and has been invested by a confiding king with the control of the government; in which, although some of his measures have been censured, it will be impossible to deny that they were suggested by one anxious only for the public good.

As a general he has never been surpassed, and certainly none ever excelled him as a patriot. Through good and bad fortune he has ever preserved the same steady demeanour, striving for the honour of his country, and disregarding alike the smiles of one party or the frowns of another.

When the building, by which a grateful nation sought to perpetuate their sense of the benefits he had conferred on them, shall have crumbled into dust, and when even the effects of his actions shall have become inappreciable through the lapse of ages, the fame of the Duke of Wellington will shine together with the imperishable names of ancient Greece and Rome.

* The Prince Regent's Message to the Houses of Parliament, June 22, 1815.

NOTES, BY AN UNTRAVELLED ENGLISHMAN.

THE RHINE.

AN English traveller, unless he has ascended the Rhine by steam from Rotterdam, will usually catch his first view of this celebrated river at Cologne. Few, indeed, will henceforth come up the river from Holland; for, owing to the rapidity of the stream and the monotony and flatness of its banks, the ascent, even by steam, is both slow and wearisome. Moreover, since the opening of the railroad from Ostend to Liege, a great undertaking,

which is in progress onwards to Cologne, the Dutch route has not the advantage even in respect of economy. Four days' easy travelling, sleeping at Ostend, Liege, and Aix-la-Chapelle, will now bring the traveller from London to Cologne; or indeed the distance from Liege to Cologne may be done in one hard day. From Liege to Aix-la-Chapelle the country is pretty, whether on the old road over the hills, by Battices, or on the new one, which, like the railroad, follows the valley of the Vesdre. I took the former line, through a district undulating, cheerful, and luxuriant, almost entirely laid down in pasture, intermixed with orchards, in all the fulness and beauty of blossom. Even in England the turf could not be thicker or softer, or the green more vivid; and indeed the scenery reminded me much of those parts of England, especially in the north, which are intermediate between a mountainous and champaign country. In Aix there is no great deal to excite curiosity. The cathedral is more remarkable for antiquity than beauty, having been founded by Charlemagne at the end of the eighth century, and rebuilt by the emperor Otho in 983. The older part, which now serves for a nave, is round, like our Temple church, built after the plan of the church of the Holy Sepulchre at Jerusalem, and in the most massive style of Romanesque architecture: the choir, of the thirteenth century, is very lofty, with immense windows of the lightest Gothic. In the centre of the rotunda a huge flagstone, simply inscribed CAROLO MAGNO, marks the spot where Charlemagne was buried. Various relics belonging to him are still shown, but only in the presence of a priest, and the fee demanded was sufficient to stifle my curiosity. His crown, his copy of the Gospels, sword, and imperial mantle, formerly used in the coronation of the emperors on this spot, are now at Vienna; but the marble chair in which his body was seated, and the marble sarcophagus, of Roman workmanship, in which his feet were placed, are shown by the guardian of the church.

Aix-la-Chapelle is a city of hotels; the number, size, and splendour of them are extraordinary. In the bathing season, I suppose, there is plenty of gaiety; out of it, the town seems dull enough.

From Aix to Cologne, flat, sandy, and dull. Cologne, as far as its domestic architecture goes, has little to please one fresh from the Netherlands; while in dirt and bad smells it maintains an evil pre-eminence. It was my lot to enter it on a Saturday, and that Saturday Whitsun-Eve, when every housemaid in the place seemed to be at work in the gutters, each driving before her such torrents of fœtid mud as seemed to indicate that the operation had not been performed since the last anniversary of the feast. Such a power and variety of bad smells I never encountered: they justified Coleridge's epigram:—

> "In Köln, that town of monks and bones,
> And pavements sharp with jagged stones;
> Of hags, and rags, and dirty wenches,
> I counted two-and-seventy stenches,
> All well-defined and separate stinks.
> Ye nymphs who rule o'er sewers and sinks,
> The river Rhine, as is well known,
> Doth wash the city of Cologne;
> But tell me, nymphs, what power divine
> Shall henceforth wash the river Rhine?"

Formerly Cologne was one of the high places of Catholicism: its monks were counted by thousands, and its churches by hundreds; but the convents were stripped, and numbers of the churches desecrated and turned to secular purposes, by the French. Still its ecclesiastical buildings are the boast and attraction of Cologne. Of the glorious cathedral, fragment though it be, too much praise cannot be said: it is alone worth a journey from London to see it. The choir and one aisle only of the nave are completed. The interior of the choir is said to reach the enormous height of 180 feet: it is built in the purest and richest style of Gothic architecture, such as in Rickman's nomenclature is called Decorated. The east end is circular, supported by narrow lancet arches, of the same height as the spacious arches of the side aisles. The triforium is very lofty, light, and elegant; and its lightness is much increased by having a row of windows, instead of the usual solid wall, behind the arcade. Strasburg is the only other place in which I remember to have seen this construction. The clerestory windows themselves equal in height a lofty church; they are very elegant in proportion and tracery, and fitted with rich painted glass. Externally it is propped by two tiers of massive, highly decorated, flying buttresses, capped by crocketed pinnacles of corresponding weight. The exterior, no less than the interior, deserves minute examination; yet from a distance the general effect of the building is almost ludicrous. The choir ends awkwardly and abruptly, where a nave should be; its enormous height seems disproportioned to its length, and exceeds that of the unfinished tower at the west end; while between them lies a low shapeless mass, consisting of the piers of the abandoned nave, roughly roofed over to preserve them from dilapidation. The design of the west end is most magnificent. Its two towers were to have been raised to the height of 500 feet; one only has reached about a third of its intended height; but enough is done to give a notion of what the whole would have been. The great doorways, in their loftiness, richness, and depth of sculptured mouldings, and elegance of their canopies, are incomparably fine; and the whole fabric of the tower is of corresponding beauty. A crane still projects from its summit, the same, it is said, as was used in building it. Once it was removed; but a violent thunder-storm came on just after, which the superstitious citizens regarded as a denunciation of this open abandonment of the completion of the cathedral. It was therefore replaced, and still remains, as if to feed the lover of architecture with hopes that never will be accomplished. The king of Prussia is doing much to restore and repair the building, and, it is said, in very good style: to finish it would be a task of enormous expense. It would be worthy of all courtiers to unite in forming a fund for the completion of what, if finished, would be (if one may say so without having seen St. Peter's) the noblest building ever raised by man. The Duomo of Milan, incomparable for costliness of material and beauty and profusion of ornament, cannot compete with Cologne in grandeur and purity of design.

The celebrated shrine of the three magi, the wise men who visited the infant Saviour, commonly called the three kings of Cologne, is at the east end of the church, behind the high altar, and may be inspected by those who will pay the price. It was formerly of enormous value in gold and jewels, but these treasures are said to have been much diminished during the Revolution. Cologne is a famous place for martyrs: there are here the bones of St. Geryon and the Theban legion, and St. Ursula, with her 11,000 virgins, each lining a church. I did not visit them, but believe the effect to be curious and worth seeing by those who have time. The church of the Apostles (I think) is a beautiful specimen of that round-arched style which was imported from the East in the early crusades, and of which examples still abound in Germany.

[To be continued.]

Money and Iron.—Money is the most universal incitement, iron the most powerful instrument, of human industry; and it is very difficult to conceive by what means a people neither actuated by the one nor seconded by the other could emerge from the grossest barbarism.—*Gibbon.*

COMMERCE OF HOLLAND.

[The Weighing-House, formerly called St. Antony's Gate, at Amsterdam.]

THE genius and talent of the Dutch for commercial affairs are universally acknowledged. At one period they nearly engrossed the trade of the world. Some of the towns of Holland were members of the Hanseatic League, soon after its formation in the 13th century, and they succeeded this association in the trade of the Baltic. In the fifteenth century, it is stated that 300 ships arrived twice a year at Amsterdam from Dantzic and Livonia only; and the Baltic trade was constantly increasing for a whole century afterwards. The Pensionary De Witt, writing in the seventeenth century, says that the Dutch herring-fishery gave employment to 6400 vessels, and 112,000 seamen; and that the whole number dependent upon it for support, including ship-builders, net-makers, coopers, and others engaged in the process of curing and in various ways, amounted to 450,000 persons. The commercial marine consisted at this time of 10,000 sail and 168,000 seamen. The system of marine insurance was conducted on most intelligent principles in Holland in the sixteenth century; in 1602 the Dutch East India Company was formed; the famous bank of Amsterdam, one of the first institutions of the kind in Europe, was opened in 1609; and in 1621 the merchants formed a West India Company. In the same century, the coasting trade of Spain was almost entirely carried on in Dutch vessels. After the decline of the naval power of Spain, Dutch vessels were hired to trade with the Spanish possessions in South America. The Dutch indeed monopolised the carrying trade of nearly the whole of Europe, and maintained a navy which cost England greater efforts to subdue than the Spanish Armada. Thirty or forty years after the commerce of Holland had begun to decline, Sir William Petty estimated the tonnage of the various maritime powers of Europe at 2,000,000 tons: of which Holland possessed 900,000; England 500,000; Sweden, Denmark, Hamburgh, and Dantzic, 250,000; Spain, Portugal, and Italy, 250,000; and France 100,000.

It is interesting to mark the causes of that commercial pre-eminence which the Dutch enjoyed for so long a period, and equally so to inform ourselves touching those which led to its decay. Without attending to the former, it will not be easy to comprehend how a people, placed apparently in the most unpromising circumstances, should be able to conquer formidable natural obstacles and to raise themselves to a higher pitch of prosperity than countries enjoying far greater natural advantages.

Let us conceive a country whose only attraction, even in its present improved state, consists in the evidence which is everywhere to be found of the unwearied industry and perseverance of the inhabitants. When first peopled, it could have been little better than a marsh or morass, which secured those who resorted to it from their enemies, and thus afforded them the opportunity of applying themselves to those arts which were capable of improving their condition. The neighbouring seas abounded in fish, and Cæsar describes the Bataviæ, who then in-

habited Holland, as deriving their subsistence from the fishery. They were driven to this element for food, the soil being unfavourable to cultivation, while it was only preserved from inundation by constant exertion in constructing and keeping in repair the embankments which confined the ocean within safe bounds. Thus labour and frugality, the true sources of wealth, were imposed upon them as the conditions of their existence. As their wants increased, not only the materials for clothing, but food for their support, could only be obtained in sufficient abundance by intercourse with other countries; and the multiplicity of their wants necessarily directed their energies towards commerce and navigation, as, at an earlier period, they had been forced to look to the sea for a supply of food.

In the fourteenth century an individual discovered the mode of curing and preserving herrings, and this valuable commodity, which could be exchanged for the products of every country in Europe, gave a great impulse to the shipping and trade of Holland, which soon became of greater extent than any country had yet possessed in modern times. "Yet," as Sir William Temple remarks, "they have no native commodities towards the building or rigging of the smallest vessels, their flax, hemp, pitch, wood, and iron coming all from abroad, as wool does for clothing their men and corn for feeding them." Their wants exceeded those which the natives of other countries experienced, and yet, wanting everything, they were most abundantly supplied with all things by their commercial activity; and, to quote the same writer, Holland grew rich "by force of industry, by improvement and manufacture of all common growths; by being the general magazine of Europe, and furnishing all parts with whatever the market wants or invites; and by their seamen being, as they have been properly called, the carriers of the world."

It is singular that Amsterdam, the most incommodious port of Holland, should have become the greatest resort of trade and shipping, but here flowed the trade of Europe and India once enjoyed by Lisbon and Antwerp, while Helvoetsluys, the only tolerable harbour on the coast, was without any trade. The whole history of Dutch commerce, however, teaches us not to rely too much upon natural advantages or to attribute too little to the efficacy of moral causes. Antwerp was more favourably situated than Amsterdam; it was also, like Amsterdam, near the mouths of great rivers, and in the centre of Europe, which fitted it to be an emporium for the north and south; but the horrors of war and the spirit of tyranny ruined the trade of Antwerp, and in 1585 the city was taken, after a siege by the Spaniards. Holland, the common refuge of the oppressed, where liberty of conscience could be enjoyed and equal laws prevailed, naturally profited by the fall of Antwerp. "Throughout the whole course of all the persecutions and oppressions that have occurred in other countries, the steady adherence of the republic to this fundamental law (the free exercise of different religions) has been the cause that many people have not only fled hither for refuge, with their whole stock in ready cash, but have also settled and established many trades, fabrics, manufactures, arts, and sciences in this country, notwithstanding the first materials for the said fabrics and manufactures were almost wholly wanting in it, and not to be procured but at a great expense from foreign ports." In the seventeenth century, when the prices of provisions were higher in Holland than in England, the Dutch undersold the English manufacturer in foreign markets. Our cloths were sent to Holland in a white state, as the Dutch mode of dyeing and dressing them was superior to our own, although this was our great staple manufacture. The population of Holland was, in truth, more orderly and industrious, and better accustomed to continuous labour than the English workman of two centuries ago; and it was therefore natural that they should reap all the advantages of their superiority.

In addition to the confidence inspired by the constitution and form of government, the mode in which justice was administered, the care to preserve peace and tranquillity at home and abroad, and the probity of public men,—moral causes which contributed to increase the trade and opulence of the country,—there were others which deserve also to be mentioned.

Holland made the nearest approach of any country to freedom of trade. "The lowness of their customs and easiness of paying them," says Sir William Temple, "with the freedom of their ports, invite both strangers and natives to bring commodities hither, not only as to a market but to a magazine where they lodge till they are invited abroad to other and better markets." The strict regulations enforced in preparing commodities for export enabled them to obtain the highest prices in foreign markets. When Sir William Temple wrote, there had been seventy "placarts" issued respecting the mode of curing, pickling, and barrelling herrings. The division of employments also promoted the success of commercial enterprise. Thus Amsterdam was more particularly engaged in the East India, Spanish, and Mediterranean trade; Flushing, in the West India trade; Middleburgh, in the wine trade with France; Tervere, in the Scotch trade; Dort was the mart for English goods and Rhenish wines, and Rotterdam for English and Scotch goods and French wines. Friezland was engaged in the Greenland fishery, and Enkhuisen and Mazlandsluys in the herring-fishery. Leyden was famous for its manufacture of silken stuffs; Haarlem, for linens and mixed stuffs; Delft, for beer and porcelain; and Saardam, for ship-building.

There were also several adventitious causes which contributed to swell the stream of commerce. While Holland was acting upon maxims which render trade flourishing, other countries were often ravaged by war or oppressed on account of religion, and had not, like Holland, been compelled, by their natural unproductiveness, to attend to every circumstance which could encourage commerce. The shipping of Holland, which by the middle of the sixteenth century had nearly outgrown the demands of trade in Europe, found soon afterwards, in America and the East Indies, fresh sources of profitable employment; and large possessions in these parts, which Spain had mismanaged, fell into the hands of the Dutch with little trouble, when, having beaten the Spaniards at home, they turned their arms towards the settlements of their enemies abroad.

In the course of time so much capital had accumulated that money could be borrowed by the government at two per cent. The bank of Amsterdam was in high credit, and attracted capital from every country for better security. There was always money to be obtained for all sorts of useful works, as bridges, roads, canals, &c.; and when there was scarcely any room left for its application at home, it flowed, as Adam Smith has remarked, to the most distant employments, in loans to foreign countries, and in attempts to open new channels of trade. In Sir William Temple's time, the difficulty of finding advantageous investments was so great, that, when the government paid off any any part of its funded debt, the creditors received their capital "with tears, not knowing how to dispose of it to interest with such safety and ease." At a later period, Smith notices that people of capital were themselves compelled to superintend its employment in trade, and it was "unfashionable" for a man not to be engaged in some trade or commercial occupation.

Sir W. Temple partly ascribed the commercial greatness and wealth of Holland, in his day, to multitudes of people being crowded into a small compass of land. The necessaries of life being dear, men who had property practised great economy in their expenditure; and those who had none were driven to some industrious pursuit to avoid want; and land being also very dear, and yielding scarcely any profit, capital was directed to shipping and

commerce, which offered a wider field for gain; and by the energy and activity with which it was pursued, the capital of the country was increased. The most bulky kinds of produce were grown at home, and the land being therefore chiefly in pasture, shipping was extensively employed in fetching corn and grain from abroad. Cattle were imported from Holstein and Jutland. The chief necessary of life was not only obtained in abundance for home consumption, but Holland was the grand entrepôt for the corn-producing countries on the Baltic and elsewhere, her merchants making large purchases in abundant years, and supplying the rest of Europe from their stock in years of scarcity. Sir Walter Raleigh remarked that "a dearth of corn of only one year in any part of Europe enriches Holland for seven years."

Adam Smith asserts that Holland could only be enriched by "parsimony and privation," while to France and England he allots the happier portion of becoming wealthy by "industry and enjoyment." Holland, it is true, was much indebted for its great wealth to the abstinence and frugality of all classes. We once more quote Sir William Temple, who remarks:—"For never any country traded so much and consumed so little. They buy infinitely, but it is to sell again." And he also observes: "The Dutch are the great masters of the Indian spices and of the Indian silks, but wear plain woollen, and feed upon their own fish and roots. Nay, they sell the finest of their own cloth to France, and buy coarse out of England for their own wear. They send abroad the best part of their own butter into all parts, and buy the cheapest out of Ireland and the north of England for their own use. In short, they furnish infinite luxury which they never practice, and traffic in pleasures which they never taste."

After the peace of Munster, in 1648, the energies of various countries were directed to trade and navigation. In 1651 the Navigation Act was passed in England, and about the same period the French minister Colbert endeavoured to give activity to commerce and navigation in France. As the capabilities of different countries were developed, the trade of Holland, from this concurrence of rivalry, began to decline. Its downward course was hastened by the excessive taxation which pressed upon the energy of the Dutch people, at a time when profits had sunk to their lowest ebb. Adam Smith notices some of the modes of taxation which prevailed. One of the heaviest was a tax of 2½ per cent. on the value of houses, whether tenanted or not; and the market rate of interest being only 3 per cent., he supposes the tax to have been more than a third of the building rent, and perhaps of the whole rent. On one occasion, to relieve an exigency of the government, to which the people were much attached, a tax out of its net revenue of 13*s.* 4*d.* in the pound was contributed by the country; and must, in many instances, have been paid out of capital, in consequence of the low rate of profit and interest. Men and maid servants were also taxed, and the legacy duty amounted, in some cases, to 30 per cent. It was supposed that the money price of bread was doubled by taxation; first by the tax on grinding corn at the mill, and secondly by a tax when it was made into bread. In the country and in villages the tax was commuted by a fixed payment per head, regulated by the sort of bread each individual consumed. To the bread-tax is partly to be attributed the ruin of the manufactures of Holland. Those who indulged in the luxury of drinking tea were obliged to take out a licence for the purpose. Stamp duties were first "invented" in Holland. Such, however, was the parsimony of the people, that the vast capital of the country was but little diminished at the breaking out of the French Revolution; after which event Holland became first a kingdom for one of Napoleon's brothers, and afterwards a part of the French empire. Its commerce was completely destroyed by the operation of the Berlin and Milan decrees. During the war, capital was directed to agriculture, but this resource became ruinous on the return of peace, when so many armies, instead of being maintained in the field, again engaged in the pursuits of industry.

The trade of Holland is still very extensive, but we have not space for details in the present notice. Amsterdam maintains its ancient pre-eminence, but several other ports have sunk into comparative insignificance.

ON ROCKETS.

I.—THEIR HISTORY AND USES.

ROCKETS, with their subdivision into sky, water, line, Congreve rockets, &c., form a subject concerning which little is known by general readers. That a sky-rocket will ascend to a great height and emit a splendid train of light in its passage is well known; but we believe that a brief explanation of the principal circumstances connected with it will not be unacceptable. We shall therefore, in the present paper, treat of the history and principal uses of rockets, and devote another to their construction and mode of flight.

It is supposed by some writers that a kind of rocket was used by the Oxydracæ, a people of central Asia, as a military weapon, in the time of Alexander the Great; but whether such was the case or not, it is clearly known that the Hindus and the Chinese have been accustomed to construct fireworks, in which the rocket most probably played a part, from very early periods. The term "fireworks" here alludes more particularly to those designed for public exhibitions and rejoicings; for the rocket has been more used for this than for military purposes.

The historians of the dark ages after the fall of the Roman empire frequently speak of the *Greek-fire* as a most formidable weapon of destruction. It appears to have been a combustible mixture thrown from a machine, and that it exploded and burnt when it had fallen among the enemy. Numerous have been the hypotheses as to the nature of this fire; some supposing it to have been a kind of rocket, others a carcass, and others a sort of barrel filled with petroleum or naphtha. But the truth is, that none of the descriptions transmitted to us by early writers are sufficiently clear to enable us to decide the question.

A manuscript has been attributed to a writer named Marcus Græcus, and quoted by Dutens and Roger Bacon, in which directions are given for the construction of fireworks which appear to have combined the rocket and the shell.

In process of time rockets came to be used for various purposes both of utility and of amusement, one of which was that of a signal-light. The great height to which a rocket ascends enables it to be seen from a vast distance; and it could therefore act as a warning, as a command, as a signal of distress, and in many other ways which will easily suggest themselves to the reader. It also appears to have been used as a weapon of annoyance on many occasions, although its practice was not reduced to military or naval rules.

There is nothing which need claim our attention respecting the rocket till the middle of the last century, when observations were made on the height to which rockets ascend. On the occasion of rejoicing for a peace which was concluded in 1748, a display of fireworks took place in the Green Park, among which were several thousand rockets. Mr. Robins, the author of the 'System of Gunnery,' took advantage of the circumstance to endeavour to determine the altitude attained by the rockets; and he obtained the assistance of a friend, who stationed himself on the top of a house in King-street, Cheapside. This gentleman was provided with a large and accurate quadrant, with which he measured the angular altitude of the rockets which he could see in the

distance, making the observations at the moment when the rocket reached its greatest height. The observed altitudes varied from 61° to 84°. The distance from King-street to the Green Park was computed at 4000 yards; and this, together with the observed altitude, furnished the basis of a trigonometrical calculation, by which it was determined that the height attained by the rockets varied from 440 to 615 yards. Mr. Robins afterwards fired off some "pound" rockets, and estimated the height which they attained at from 450 to 500 yards.

Mr. Robins had calculated that if a rocket ascended 600 yards, it might be seen—supposing the light to be vivid and the air clear—at a distance of fifty miles; but as he had no means of determining this on the night of the rejoicing, he obtained the assistance of some scientific friends, and conducted some experiments with the express object of determining how far a rocket could be seen. Consequently, on September 27, 1748, he conveyed rockets and the necessary apparatus to a field at Hackney, while his friends stationed themselves at three different places, namely, Godmersham in Kent, about 50 miles distant; Beacon Hill in Essex, about 40 miles distant; and Barkway in Hertfordshire, 38 miles. A dozen rockets were fired, which were found to attain heights of from 400 to 600 yards. On communicating with the observers next day, it was found that the rockets had been plainly seen at Beacon Hill and at Barkway, but not at Godmersham, although the observer at the latter place fired some rockets which were seen at Beacon Hill, about 35 miles distant.

This experiment was succeeded by many others, having for their object to determine how far the diameter of the rockets and the composition with which they are filled influence the height to which they ascend. We cannot enter into the details; but we may remark that some of the rockets tried attained an extraordinary height; one rose to 659 yards, another to 700, a third to 743, and others respectively to 833, 880, 915, 1071, 1109, 1190, and 1259 yards. It is difficult to form a conception of such heights as these, unless by comparing them to some known standard: it will therefore assist the reader if we state, that the last-mentioned height is equal to eleven times that of St. Paul's cathedral. The weather, at the time of making these experiments, was too hazy to admit of satisfactory observations being made on the distance at which the rockets were visible. The results of Mr. Robins's experiments are given in the 46th volume of the 'Philosophical Transactions.'

About the year 1804 it occurred to Sir William Congreve that the projectile force of the rocket might be made available as a military engine, in the same way as, or rather in lieu of, artillery. The rocket is in itself a pasteboard case, filled with explosive composition; and this gentleman conceived that if the case were made of sheet-iron instead of pasteboard, and of a size sufficiently large to contain a considerable quantity of explosive substance, it might act as a bomb-shell by bursting after it had fallen among the enemy's troops. In the first place he made several experiments to determine how great a range he could produce, and, by varying the composition, he succeeded in obtaining a range of 1500 yards. He then applied to Lord Chatham for permission to have some large rockets made at the government establishment at Woolwich, and he shortly succeeded in gaining a range of 2000 yards, being considerably more than a mile.

In 1805 Sir W. Congreve proposed to try the rocket system in an attack on Boulogne. He made an application to the Prince of Wales, who recommended its immediate adoption to Mr. Pitt. Some experiments were made before Lord Castlereagh and Lord Mulgrave at Woolwich, and the result was, that a squadron was fitted out and put under the command of Sir Sidney Smith. The plan was, to attack the flotilla at Boulogne by projecting a large quantity of rockets from men-of-war's launches; but it was so late in the season before the expedition was fitted out, that it was found impracticable to pursue the plan that year.

In the following year Sir W. Congreve obtained permission to make some rockets with iron cases instead of pasteboard, and he succeeded in firing some which weighed 32 pounds, which contained as much explosive composition as a ten-inch shell, and which ranged to the enormous distance of 3000 yards. He then proposed another attack on Boulogne; but just as it was about to be made, a negotiation for peace was entered upon, and put a temporary stop to hostilities. However, in October of the same year, the war recommenced, and an attack on Boulogne was conducted by Commodore Owen. The destructive effect of the rockets was what Sir W. Congreve had expected, although the French sought to conceal the real extent to which the town had been injured.

The power of the rocket having been thus tested, it was employed in the expedition against Copenhagen, in 1807. The rockets were directed, on that occasion, by Sir William Congreve, and did such dreadful execution, that the Master-general of the Ordnance afterwards ordered a commission of artillery officers to report on the general availability of the rocket; when it was pronounced to be a powerful auxiliary to the present system of artillery.

Rockets were used at the Walcheren expedition; and also on the coast of Spain, in 1809, on which occasion twelve hundred of them were distributed in different parts of the rigging of the fire-ships. A rocket troop was formed shortly after this, under the command of Captain Bogue, and was present at the celebrated battle of Leipzig, being the only English troops engaged on that occasion. This was the first application that had ever been made of rockets to the service of cavalry: it was done by direct order of the Prince of Wales; and the Crown-Prince of Sweden bore testimony to the efficacy of the rockets in the battle. This success led to the formation of a regular rocket corps, which took place January 1, 1814.

The cessation of the war in 1815 put an end to the desolating scenes which Europe had so long witnessed; and there have, since that time, been but few opportunities in which the rocket has been used as a military weapon. On one of these, however, viz., the Burmese war, a most powerful and awful exhibition of its power took place.

Sir William Congreve published a quarto volume, explanatory of the mode in which the Congreve rocket may be adapted for cavalry, infantry, or shipping. In this book are plates representing the tactics to be observed by the rocket corps under various circumstances, and the modes in which the firing of the rockets can be accommodated to the nature and position of the place where they may be placed. But these points are too strictly military to possess interest for the general reader.

In a recent volume of the 'United Service Journal' there are some remarks on rockets, which will serve to convey an idea of their irresistible power. "Ninety-six artillerymen, with twenty-four 32-pounder carriages or frames, can fire in one minute seventy-two of these terrific engines of destruction, each ranging from a mile and a half to two miles, and carrying from five to twelve pounds of an incendiary [burning] composition, which continues to burn for several minutes wherever it falls, over which water has no influence, and which, from the mephitic vapour which it exhales, cannot be approached so as to be extinguished by any other means. A twelve-pounder rocket laid on the ground, and discharged without a tube, by simply applying a match to the vent, will run along the ground four or five hundred yards, seldom rising higher than a man's head, and thus alternately rising and

falling, will continue its course with such effect as, after ranging 1200 yards, to pierce through twenty feet of turf, and explode on the other side, scattering in all directions the carbine balls with which it is loaded." Another volume of the same work details some experiments made in France with rockets intended to be used at Algiers. Two rockets were discharged, with an intention to throw them to a distance of about 1500 paces; they, however, reached 1800, without deviating to any extent from the original line of projection. One of them penetrated the surface to the depth of seven feet; and although completely buried in the ground, continued burning with vehemence for six or seven minutes, until the charge was entirely consumed. The effect of the other was still more intense. It struck a young oak of strong growth, split it in two, drove the upper part to a distance of about twenty paces, and then penetrated deep into the ground, where it continued burning until the charge was exhausted. Three other rockets of nearly the same size were then discharged at a great elevation. They flew to so great a height as to be wholly lost sight of, and falling at a distance of 2000 paces, drove to a great depth into the earth.

With respect to the more peaceful employment of rockets as signals, we may mention that many proposals have of late years been made to increase their efficacy in this respect. Among others, Col. Macerone proposed to the Turkish government to have a system of signals on the Black Sea. This has been long known to the navigator as an exceedingly dangerous spot, not only from the form of the coast, but from the frequent fogs which prevail there: lights are set up on certain headlands, but still the number of shipwrecks is great. Under these circumstances, Colonel Macerone proposed that rocket depôts should be established at various points, and that on foggy nights rockets should be sent up every fifteen minutes. These ascending perpendicularly for a thousand yards, and shedding a diffused and brilliant light when they burst, would be visible to a considerable distance even in foggy weather; and by causing the rockets of one station to shed a differently-coloured light from those of another, the mariners in a ship, previously acquainted with the signals, might know near what point they were situated. We are not aware that this suggestion has ever been acted upon; but it is probable that some modification of it might be useful in other places besides the Black Sea.

The history and uses of the rocket, considered merely as an ornamental firework, need not occupy our attention: it is sufficient to say that it has been so employed for many centuries, and is so still.

Advantages of Migrations of Animals.—If we give this subject of the migration of animals due consideration, and reflect what would be the consequence if no animals ever changed their quarters, we shall find abundant reason for thankfulness to the Almighty Father of the universe, for the care he has taken of his whole family, and of his creature man in particular, consulting not only his sustentation and the gratification of his palate by multiplying and varying his food, but also that of his other senses, by the beauty, motions, and music of the animals that are his summer or winter visitors: did the nightingale forsake our groves, the swallow our houses and gardens, the cod-fish, mackerel, salmon, and herring our seas, and all the other animals that occasionally visit us, their several haunts, how vast would be the abstraction from the pleasure and comfort of our lives! By means of these migrations, the profits and enjoyments derivable from the animal creation are also more equally divided, at one season visiting the south, and enlivening their winter, and at another adding to the vernal and summer delights of the inhabitant of the less genial regions of the north, and making up to him for the privations of winter. Had the Creator so willed, all these animals might have been organized so as not to require a warmer or a colder climate for the breeding or rearing of their young; but his will was, that some of his best gifts should thus oscillate, as it were, between two points, that the benefit they conferred might be more widely distributed, and not become the sole property of the inhabitants of one climate: thus the swallow gladdens the sight both of the Briton and the African; and the herring visits the coasts, and the salmon the rivers, of every region of the globe. What can more strongly mark design, and the intention of an all-powerful, all-wise, and beneficent Being, than that such a variety of animals should be so organized and circumstanced as to be directed annually, by some pressing want, to seek distant climates, and, after a certain period, to return again to their former quarters; and that this instinct should be productive of so much good to mankind, and at the same time be necessary, under its present circumstances, for the preservation or propagation of the species of these several animals?—*Kirby on the Habits and Instincts of Animals.*

Necessity of Recreation.—There is in human nature, and never to be rooted out of it, a want of excitement and exhilaration. The cares and labours of life often leave the mind dull, and when it is relieved from them,—and it must be relieved; there must be seasons of relief,—the question is, how are these seasons to be filled up? The man cannot sit down dull and stupid, and he ought not. Now suppose that society provides him with no cheerful or attractive recreations; that all cheap and free enjoyments, the hale, hearty, holiday recreations, are out of use and out of reach, what now will the man set free from business or labour be likely to do? He asks for relief and exhilaration, he asks for escape from his cares and his anxieties; society in its arrangements offers him none; the tavern and the alehouse propose to supply the want; what so likely as that he will resort to the tavern and the alehouse? Men cannot labour on always. They must have intervals of relaxation. They cannot sleep through these intervals. What are they to do? Why, if they do not work or sleep, they must have recreation. And if they have not recreation from healthful sources, they will be very likely to take it from the poisoned fountains of intemperance. Or if they have pleasures, which, though innocent, are forbidden by the maxims of public morality, their very pleasures are liable to become poisoned fountains.—*Rev. O. Dewey, an American Writer.*

Boschman Mode of Fishing.—The Boschmans have a peculiar mode of fishing in the 'Oup river. They make conical baskets of stick grass, which is as thick and as hard as quills; some of them then tie a stone to the back of their necks, to keep them down in the water; and, wading in, they sit down in the river with the water up to their mouths, and the basket between their legs, the mouth of it to the front. Other Boschmans wade so as to drive the fish towards the basket-men, who are sitting in line, and who, pushing the passing fish into their baskets, collect a number in them, then rising rapidly, they empty them on the bank, where sit their women, and then resume their place in the river.—*Sir J. E. Alexander's Expedition into the Interior of Africa.*

Prudential Habits the Source of Comfort and Contentment.—It is of the utmost importance always to bear in mind that a great command over the necessaries and conveniences of life may be effected in two ways,—either by a rapid increase in the quantity and value of the funds destined for the maintenance of labour, or by the prudential habits of the labouring classes; and that as the former mode of improving their condition is neither in the power of the poor to carry into effect themselves, nor can in the nature of things be permanent, the great resource of the labouring classes for their happiness must be in those prudential habits, which, if properly exercised, are capable of securing to them a fair proportion of the necessaries and conveniences of life, from the earliest stage of society to the latest.—*Malthus.*

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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